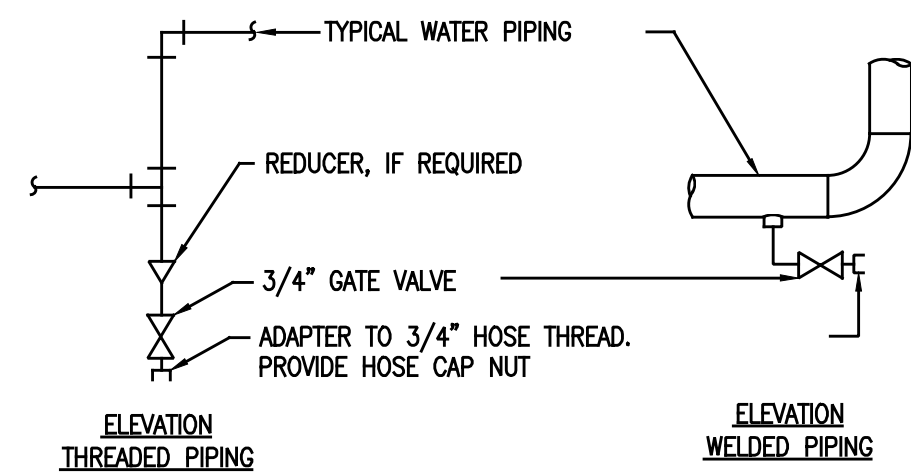


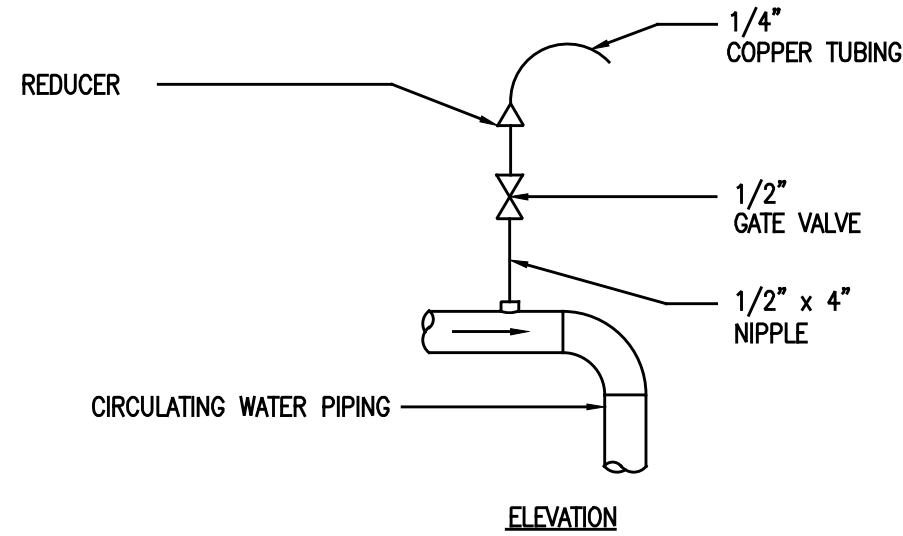
MAXIMUM PIPE/TUBING SUPPORT SPACING																		
NOM. SIZE	THRU 3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	24
PIPE	7	7	7	9	10	11	12	14	16	17	19	22	23	25	27	28	30	32
TUBING	5 FT	6	7	8	8	9	10	12	13	14	16	—	—	—	—	—	—	—
NOTE: FOR TRAPEZE HANGER TAKE SPACING OF SMALLEST SIZE ON TRAPEZE.																		

A TYPICAL PIPE HANGERS

NOT TO SCALE



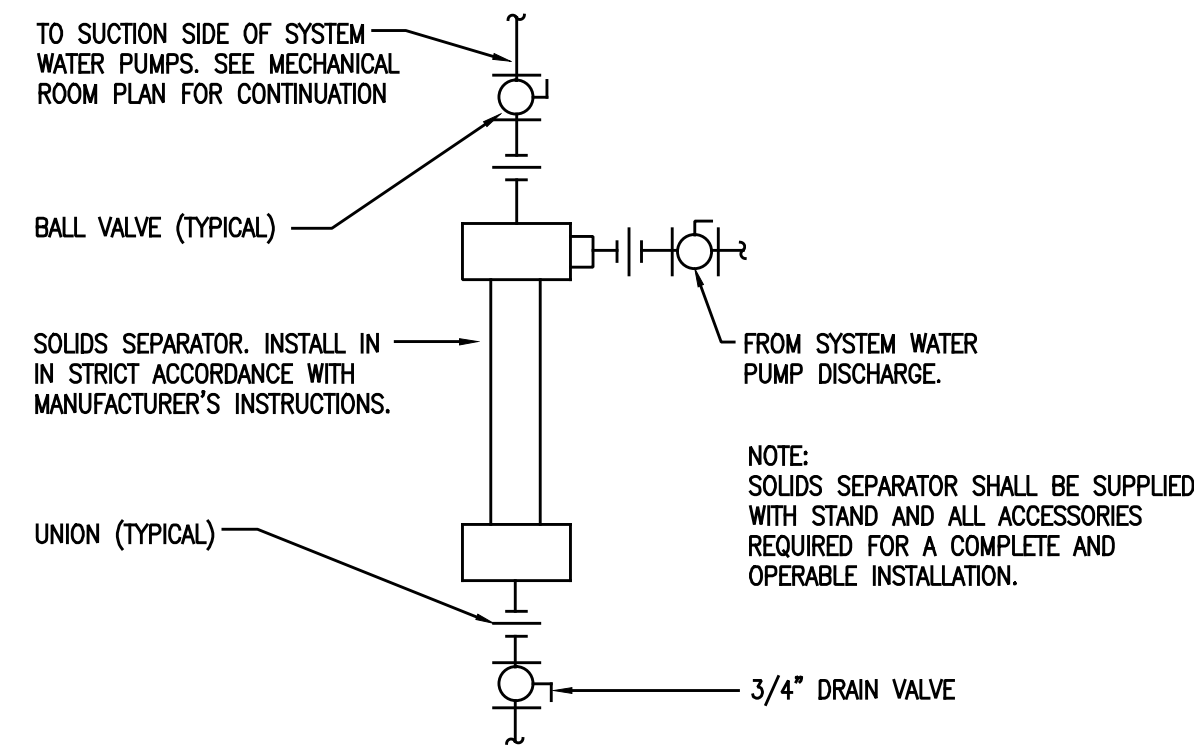
- NOTES:
1. DRAIN ALL LOW POINTS AS INDICATED ABOVE.
 2. WHERE SCALE POCKETS ARE SHOWN ON PIPE RISER DIAGRAMS AND/OR PLANS LOCATE DRAIN AT BOTTOM OF SCALE POCKET.



- NOTES:
1. VENT ALL HIGH POINTS INDICATED ABOVE.
 2. IF AUTOMATIC AIR VENTS ARE USED, PIPE DISCHARGE TO DRAIN.

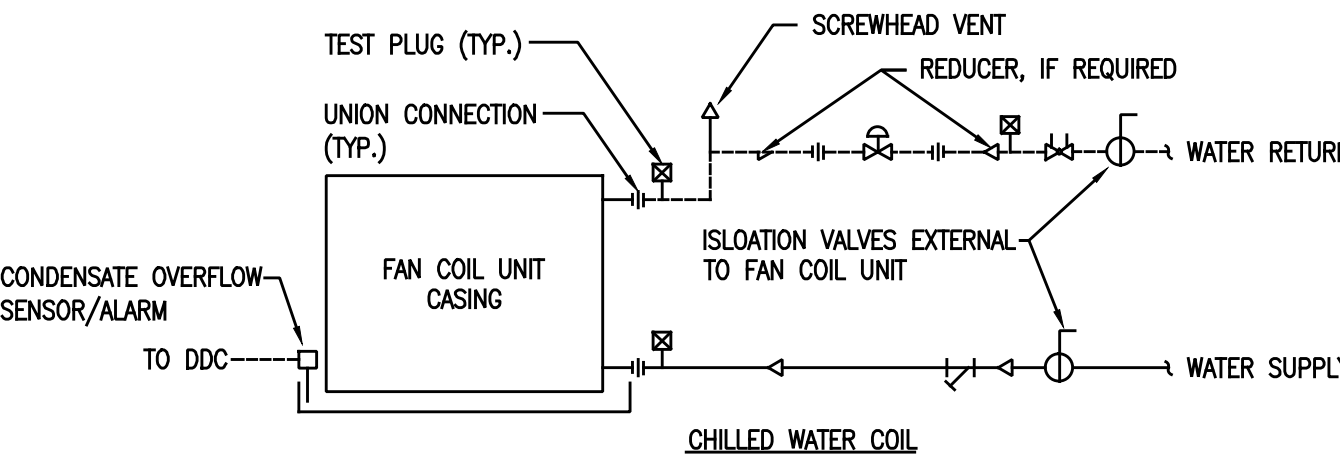
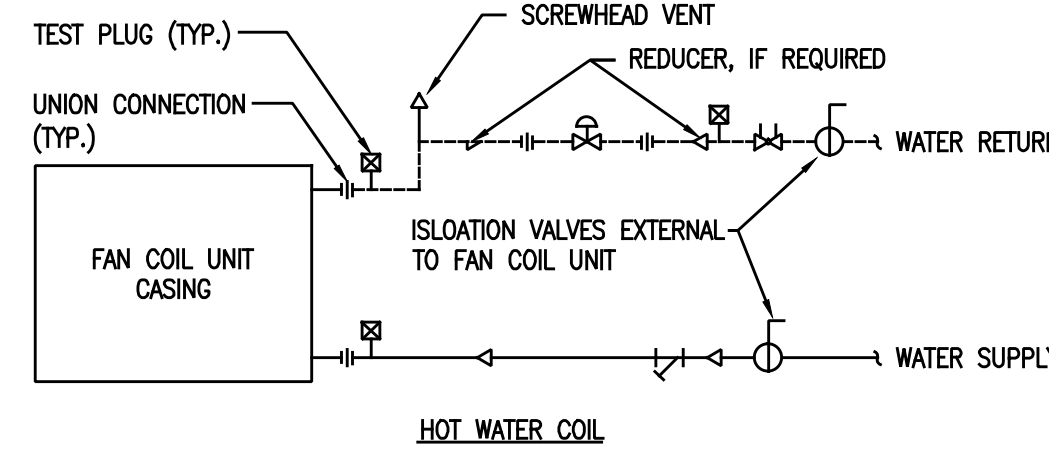
H TYPICAL CHILLED AND HEATING HOT WATER DRAIN VALVE CONNECTIONS AND AIR VENT

NOT TO SCALE



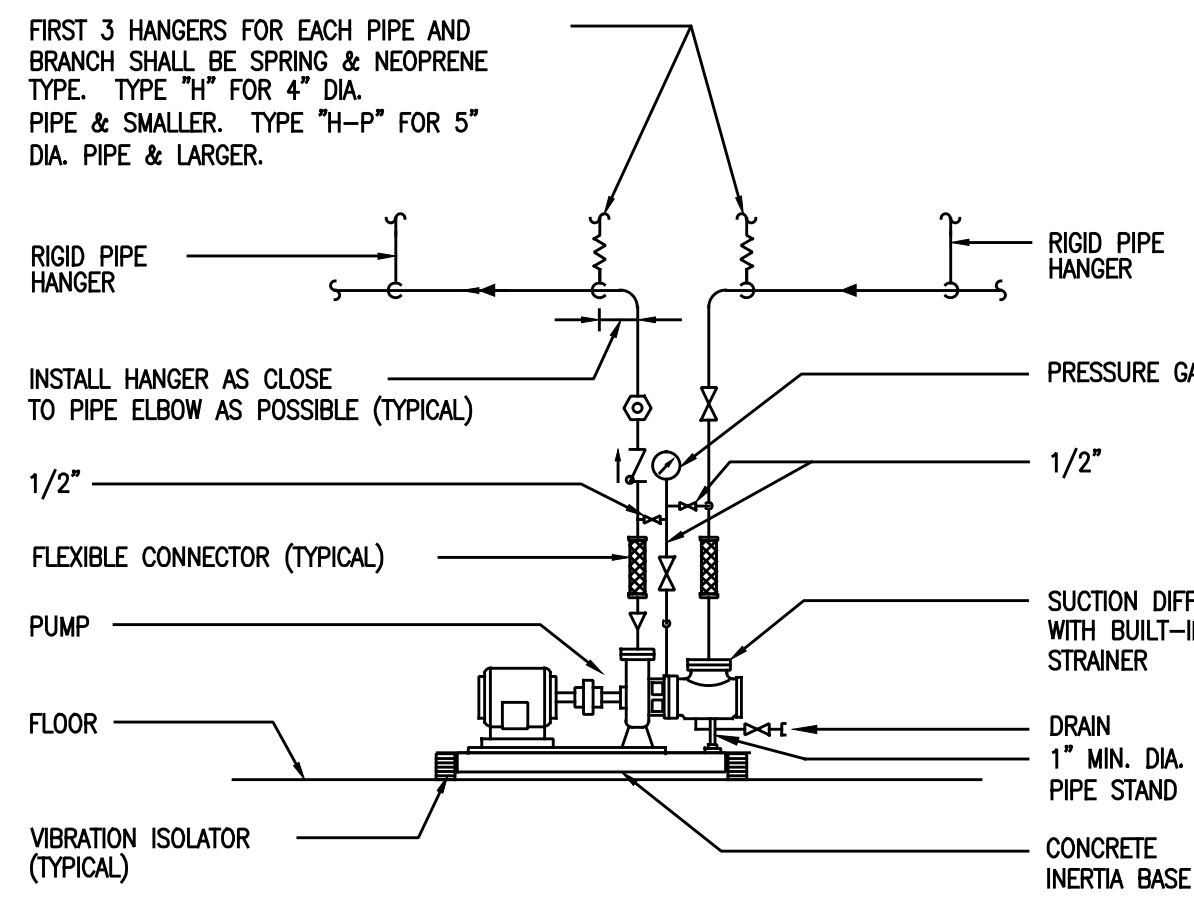
B SOLIDS SEPARATOR PIPING

NOT TO SCALE



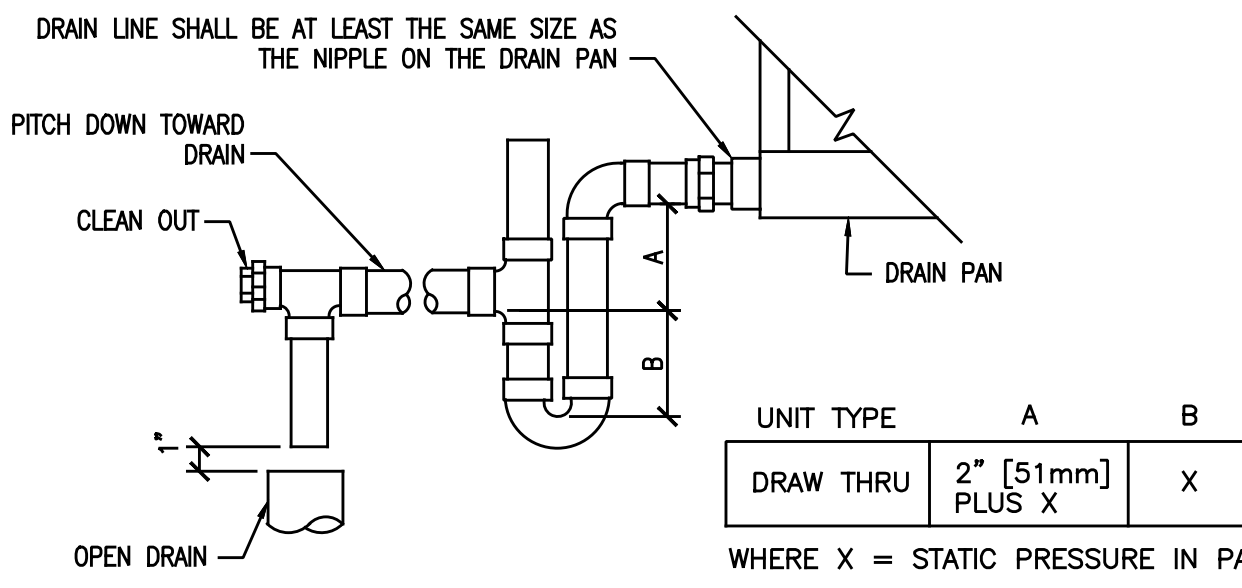
E TYPICAL COIL PIPING CONNECTIONS TO TWO AND FOUR PIPE FAN COIL UNITS

NOT TO SCALE



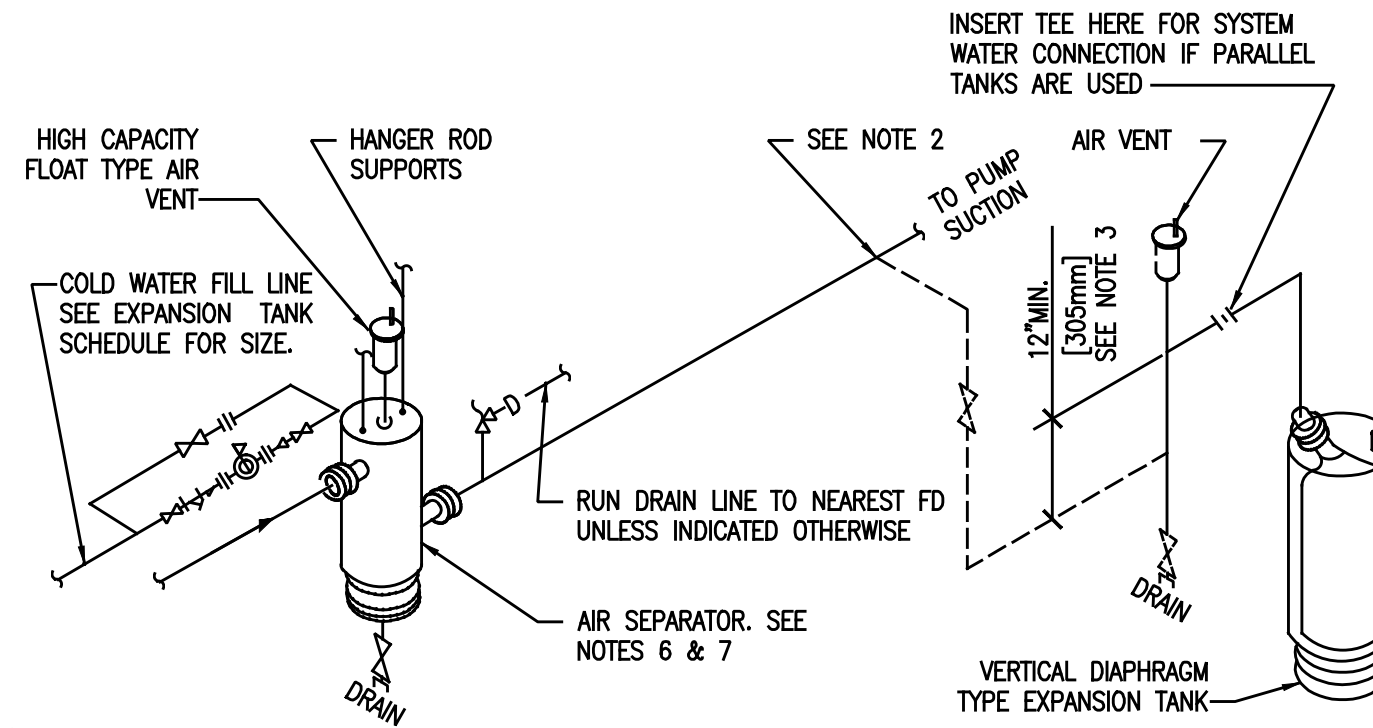
I TYPICAL PIPING CONNECTIONS TO FLOOR MOUNTED SINGLE SUCTION WATER PUMPS

NOT TO SCALE



C AIR HANDLING UNIT UNIT DRAIN TRAP

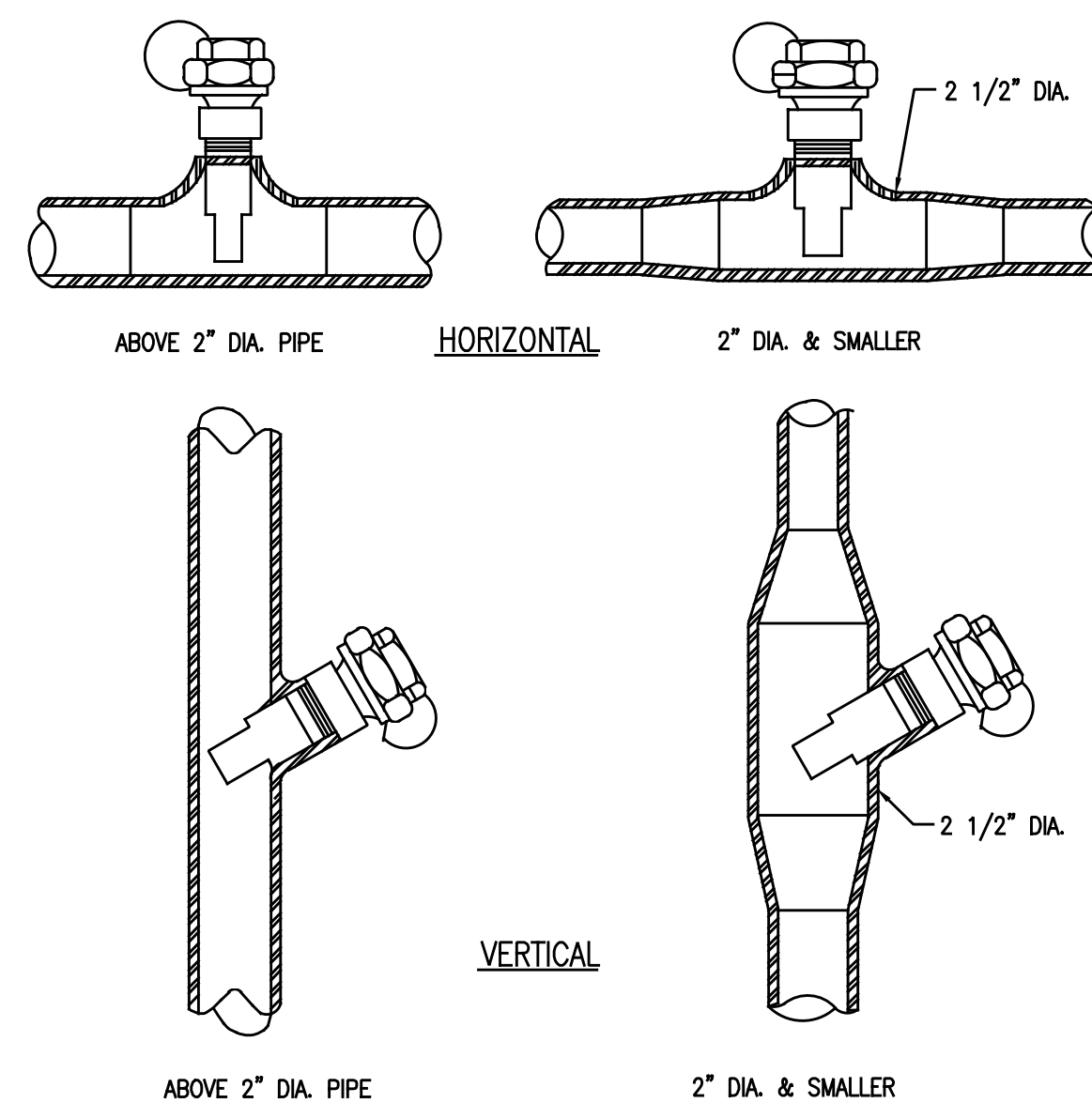
NOT TO SCALE



- NOTES:
1. DASHED PIPING SHOWS BOTH HORIZONTAL AND VERTICAL DIAPHRAGM TYPE EXPANSION TANKS. PROVIDE ONLY THE TYPE OF TANK SELECTED AND THE ASSOCIATE PIPING.
 2. CONNECT TO SIDE OF MAIN TO PREVENT AIR OR DEBRIS FROM ENTERING PIPE TO TANK, TOP OR BOTTOM CONNECTION NOT PERMITTED.
 3. PROVIDE 12" MINIMUM DROP ANTI-THERMOSYPHON LOOP TO PREVENT GRAVITY HEATING OF TANK.
 4. SEE EXPANSION TANK SYSTEM SCHEDULE FOR COMPONENT SIZES.
 5. RELIEF VALVE FOR CHILLED WATER SYSTEM IS SHOWN. OMIT WHEN RELIEF VALVE IS SHOWN ON HEAT EXCHANGER DETAIL & SYSTEM IS USED ONLY FOR HOT WATER HEATING. COMBINATION HEATING & COOLING SYSTEMS WILL REQUIRE THE RELIEF VALVE.
 6. PROVIDE STRAINER IN AIR SEPARATOR WHEN INDICATED IN EXPANSION TANK SCHEDULE.
 7. FOR HOT WATER SYSTEMS 2" AND SMALLER AND CHILLED WATER SYSTEMS USE IN-LINE AIR PURGER IN LIEU OF AIR SEPARATOR.
 8. SET PRESSURE REDUCING VALVE SO PRESSURE AT HIGHEST POINT IN SYSTEM HAS A MINIMUM OF 4 PSIG. [28kPa]

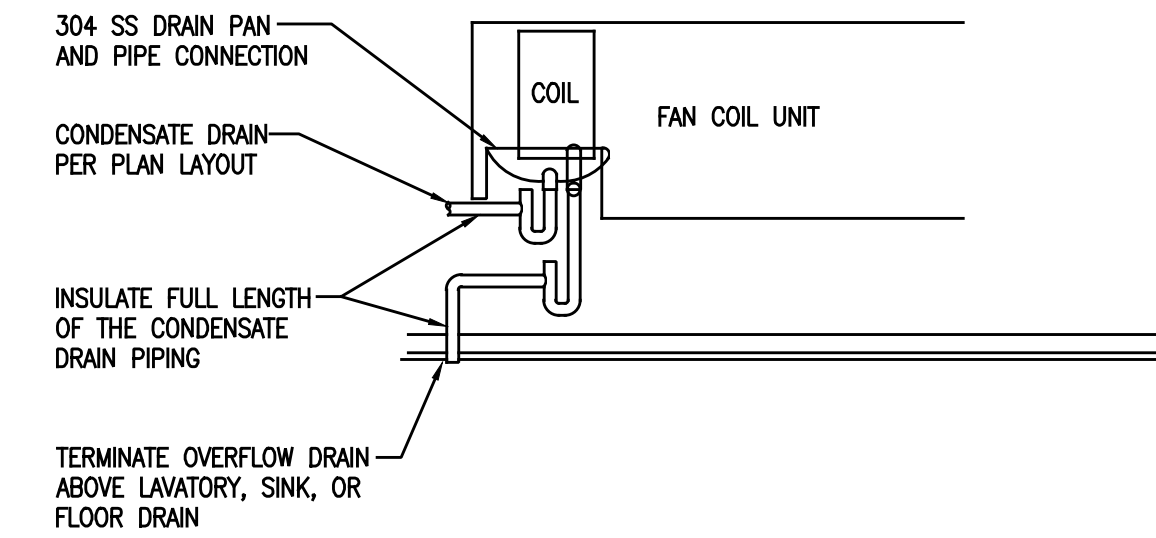
F AIR CONTROL AND PIPING CONNECTIONS FOR CHILLED AND HEATING HOT WATER SYSTEMS DIAPHRAGM TYPE EXPANSION TANK

NOT TO SCALE



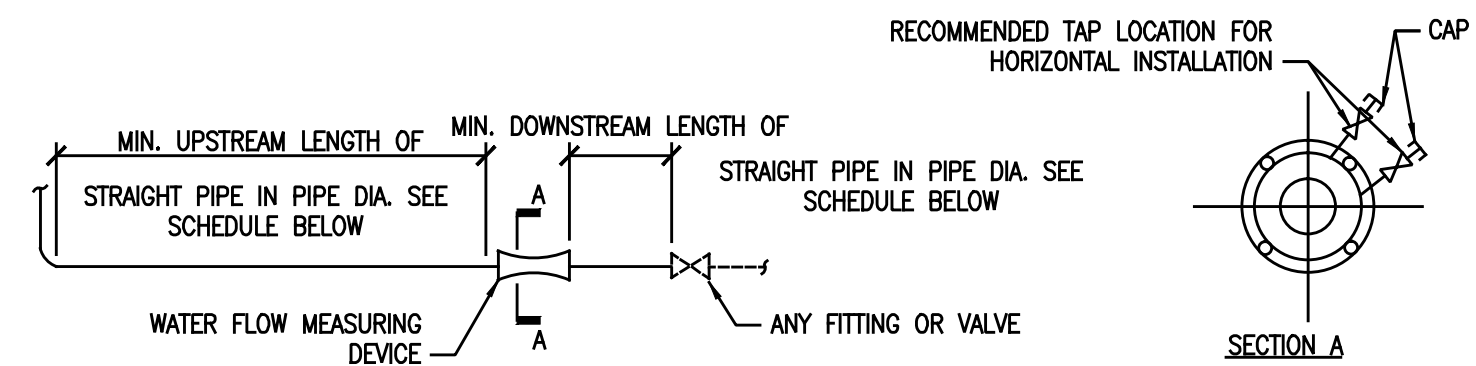
J INSTALLATION OF THERMOMETER WELLS

NOT TO SCALE



D CONCEALED FAN COIL UNIT DRAIN TRAP

NOT TO SCALE

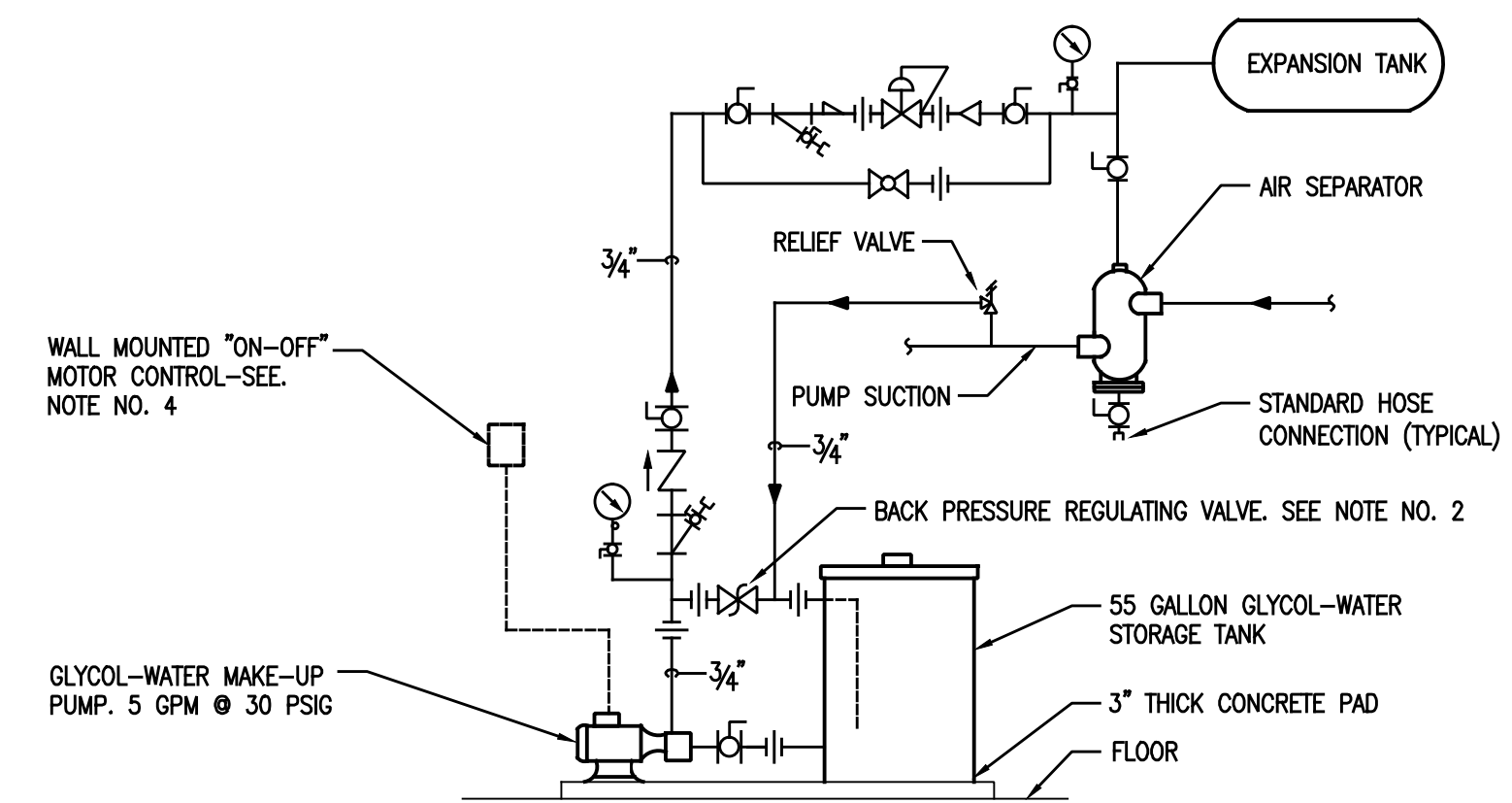


TYPE	MIN. UPSTREAM LENGTH OF STRAIGHT PIPE IN PIPE DIA. SEE SCHEDULE BELOW		MIN. DOWNSTREAM LENGTH OF STRAIGHT PIPE IN PIPE DIA. SEE SCHEDULE BELOW
	FOR SIDE TEE	FOR VALVE OR OTHER FITTING	
ORIFICE FLANGE OR FLOATING BALL WITH IMPACT TUBE	20	10	5
VENTURI, AUTOMATIC BALANCING CONTROL VALVE, OR INSERTION VELOCITY AVERAGING AND MEASURING TUBE	10	5	2

- NOTES:
1. DIMENSIONS SHOWN IN SCHEDULE ARE MINIMUM REQUIRED. IF MANUFACTURER OF FURNISHED WATER FLOW MEASURING DEVICE RECOMMENDS A GREATER DIMENSION, USE THOSE DIMENSIONS.
 2. INSTALL THE WATER FLOW MEASURING DEVICE SO THE FLOW ARROW ON THE DEVICE IS IN THE SAME DIRECTION AS THE FLOW.
 3. THE WATER FLOW MEASURING DEVICE MAY BE INSTALLED IN EITHER HORIZONTAL OR VERTICAL PIPE. UNITS REQUIRING REMOTE METERS SHALL HAVE THE METER CONNECTIONS LOCATED ON OR NEAR THE SIDE WHEN INSTALLED IN HORIZONTAL PIPE. SEE SECTION A. THE METER CONNECTIONS CAN BE INSTALLED IN ANY POSITION WHEN INSTALLED IN VERTICAL PIPE.

G WATER FLOW MEASURING DEVICE INSTALLATION DETAIL AND INSTALLATION SCHEDULE

NOT TO SCALE



- NOTES:
1. PROVIDE LOW WATER LEVEL ALARM. PROVIDE A LOW WATER LEVEL AT ECC. RELIEF VALVE DRAIN SHALL RETURN TO TANK AS SHOWN ON THIS DETAIL.
 2. SET REGULATING VALVE TO MAINTAIN MAKE-UP PRESSURE AT 15 PSIG ABOVE HIGHEST SYSTEM PRV SETTING.
 3. MAKE-UP PIPING SYSTEM DOES NOT REQUIRE INSULATION.
 4. OPERATE PUMP MANUALLY AS REQUIRED TO FILL.

K GLYCOL FEED SYSTEM PIPING

NOT TO SCALE

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VA FORM 08-6231		Thursday, February 09, 2012 12:33:13 PM		BID DOCUMENTS		Department of Veterans Affairs		Dwg. 36 of 61			